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A Search for Rules for International Wheat Surplus Disposal

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A SEARCH FOR RULES FOR INTERNATIONAL WHEAT SURPLUS DISPOSAL

BY

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WHEAT SURPLUS DISPOSAL

This thesis is approved as a creditable, independent investigation by a candidate for the degree, Master of Science, and acceptable as meeting the thesis requirements for this degree; but without implying that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

"Where food is abundant and men are free, industry thrives and life is endowed with decency and dignity."[1]

The evidence is quite clear that an abundant food supply can greatly aid underdeveloped countries in their endeavors to promote economic growth and higher standards of living.[2] Unfortunately this need is not backed up with sufficient purchasing power. As a result millions continue to live at a bare subsistance level in the underdeveloped areas, with no hope for a better life in the future while the surplus producing nations are plagued with high surplus carrying costs and relatively ineffective programs that attempt to bring supply into line with effective demand.

The problem is largely a financial one and not entirely dissimilar to those that a banker deals with every day. For example, take the case of a bank with excess reserves. Does the banker try to maintain a high level of excess reserves or does he try to loan the excess reserves out to customers having sound investment plans? The answer is obvious.

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[1]Karl B. Mickey, Food in War and Peace, p. 45, International Harvestor Company: Chicago, 1943.

[2]When unemployed or underemployed people in the underdeveloped nations are put to work on new development projects, there is an increased demand for food. If sufficient food supplies are not available these nations will be forced to either use their foreign exchange holdings for food instead of capital equipment needed for development or allow widespread inflation which is also harmful to development efforts.

The banker knows that such a loan will not only earn a reasonable rate of interest but it should also create income for his customers and mean more business for him in the future.

International loans and aid can also help promote business activity and create incomes. One needs only to examine the effects of the Marshall Plan in Europe to discover the validity of that statement. Table I shows that income and trade were relatively low in 1950 in the four European countries listed, while United States aid was very substantial to say the least. By 1957 the positions were reversed. Incomes had gone up an average of 180 percent, trade had about doubled, and aid had been reduced over 97 percent. Truly this was an amazing comeback and a boom for the entire world.

This would all seem to indicate that there is hope that the "excess reserves of agriculture" can be turned into valuable assets by loaning them to the underdeveloped nations who can use them effectively. Of course wheat is not a perfect substitute for dollars, not even in the underdeveloped areas and it would be fool-hardy to compare the post-war European situation with existing ones in South Asia for instance. However the underlying principle is the same. It takes capital to create new income and someone has to supply it.

The Problem Situation

Since 1954, the United States has acted to a certain extent as the "food banker" of the world. In the case of wheat alone, over one billion bushels were shipped overseas during the first four years of the

TABLE I. INCOME, AID, AND TRADE, SELECTED EUROPEAN COUNTRIES, 1950 and 1957 COMPARED

Country	Year	National Income	U.S. Aid	U.S. Exports	Total Imports
		(Billion $)	(Million $)	(Million $)	(Million $)
France	1950	21.5	616	342	3,030
	1957	37.3	30	589	6,110
Germany	1950	17.7	367	400	2,697
	1957	38.2	1	956	7,499
Italy	1950	11.0	287	357	1,488
	1957	19.6	3	678	3,674
United Kingdom	1950	29.9	949	516	7,069
	1957	49.3	22	1,100	11,038
Total	1950	80.1	2,319	1,655	14,284
	1957	144.4	56	3,323	28,321
% change	1957	+180	-97.6	+201	+198

Sources: Monthly Bulletin of Statistics, Vol. XIII No. 4, pp. 96-98 and 158-166 United Nations: New York, 1959.

The United States Economy and the Mutual Security Program, p. 50, Department of State: Washington, 1959.

special export programs (Public Law 480 and Section 402 of the Mutual Security Act) financed by the United States government.[3] The results have generally been regarded as very satisfactory in both the receiving nations and in the United States. However the other major wheat exporting nations, particularly Canada and Australia, have contended that the concessional sales replaced their commercial exports significantly. Thus they claimed the United States is merely shifting much of its surplus burden on to those who are heavily dependent on commercial wheat exports to earn them foreign exchange and to maintain the incomes of their farm populations.

The United State's position has been that precautions were taken to protect the commercial markets of all. However the most controversial parts of the special programs, barter and concessional sales to industrialized nations, have been substantially reduced; apparently in recognition that those had interfered significantly with commercial exports. Further the United States has invited the other surplus producing nations to join them in formulating a cooperative plan for sharing the wheat surpluses with countries that need them.

Statement of the Problem

Before a cooperative plan can be formulated for utilizing the wheat surpluses in underdeveloped countries, there are three points on

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[3] The World Grain Trade, pp. 26-31, Foreign Agricultural Service: Washington, 1959.

which the exporting nations will have to agree. They are: (1) uniform terms (rates of interest and repayment, and etc.) for concessional sales; (2) the level of commercial wheat imports, if any, that the underdeveloped countries should be required to maintain; and (3) a basis for determining the quantity of wheat each exporting nation should supply on concessional terms.

The wheat exporting countries will probably not have much difficulty in reaching an agreement on uniform terms.[4] The second point though is a highly controversial issue. Some claim all underdeveloped areas should be declared non-commercial markets for wheat, while others contend that all concessional sales should be stopped. It would seem imperative that this disputed issue be aired in an objective manner if some basis for agreement is to be found. If the dispute can be resolved, the way will be cleared for discussion on how to supply wheat requested on concessional terms. This is a new and important issue which has been discussed very little up to now.

Objectives

The general purpose of this study was to attempt to establish a basic rule for determining the level of commercial wheat imports, if any,

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[4]This does not imply that the terms offered will be the best ones for promoting economic development. While useful concepts on economic development (reviewed briefly in Chapter II) and valuable statistics on the incomes and growth of a large number of countries (see Tables VII, VIII and IX in Appendix) are available, a great deal more research is needed before optimum terms can be prescribed.

that the underdeveloped countries should be required to maintain in addition to concessional purchases and to offer a rule and some procedures that the exporting countries might follow in supplying wheat on concessional terms.

The specific objectives were:

1. To determine if underdeveloped countries with low per capita national incomes could just as well be declared non-commercial markets for foreign wheat.

2. To determine if per capita national income can be used as an indicator of an underdeveloped country's relative importance as a commercial importer of wheat.

Hypotheses

In line with the specific objectives, two hypotheses were tested. They were:

1. Underdeveloped countries with per capita national incomes of under $100.00 are commercial wheat importers only in years when their per capita domestic foodgrain production is relatively low.

2. The per capita national income of an underdeveloped country is an indicator of that country's relative importance as a commercial wheat importer.

The first hypothesis was derived from claims that the underdeveloped countries should be declared non-commercial markets for foreign wheat -- the reasoning being that these countries only import substantial quantities of commercial wheat when they are faced with severe food shortages.

To force them to buy on commercial terms then is only taking undue advantage of their misfortune and setting back their economic development. This in turn delays the day when they will be able to be consistent importers of large quantities of wheat and other products from the more - developed countries. Concessional terms however, allow them to take substantial quantities and to improve the level of nutrition for their people, while also aiding their development.

The second hypothesis results from the fact that wheat is considered superior to other grains used widely as foodgrains in the underdeveloped countries. Thus an underdeveloped country with a relatively high per capita income in comparison to other underdeveloped countries, might reasonably be expected to have a greater effective demand for wheat.

Procedure

The data used in this study have been obtained from a wide variety of sources; the principle one being the International Wheat Surplus Utilization Conference Proceedings.[5] Other main sources were the official publications of the United Nation's Statistical Office and Food and Agriculture Organization, and the United State's Foreign Agricultural Service, Agricultural Marketing Service, and International Cooperation Administration. Much use was also made of ideas expressed in Millikan and Rostow's A Proposal -- Key to an Effective Foreign Policy [6] and in

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[5] Economics Department, South Dakota State College: Brookings, South Dakota, 1959.

[6] Harper and Brothers: New York, 1957.

W. Arthur Lewis's The Theory of Economic Growth.[7]

The first step was to define certain terms and concepts used in the study. The ones defined were considered either to be unfamiliar to a large number of people or used differently by different people.

A review of the international food and wheat situations and surplus wheat disposal was made in order to place this study in a proper perspective.

An analysis was made of factors which influence the quantity of wheat that underdeveloped countries import annually. This was done to test the validity of the hypotheses and to see if a basis could be uncovered for determining a rule on the level of commercial imports an underdeveloped country should be required to maintain in addition to concessional purchases.

After the above analysis was completed, rules or guidelines were proposed for determining the level of commercial wheat imports that a country should be required to maintain in additional concessional purchases. From there it followed that a rule was needed for the exporting countries to follow in filling requests for concessional sales. A basis for such a rule and proposed procedures were outlined. Alternate rules were also suggested.

The final step was to summarize the study. Statistical tables which support the tables and figures in the text are given in the Appendix.

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[7]Richard D. Irwin, Inc.: Homewood, Illinois, 1955.

Limitations of the Study

The limitations of this study are many. First and foremost it should be remembered that the proposals offered are offered simply in the hope that they may be worth fuller consideration by more qualified men. The author makes no claims of fully understanding the intricacies of surplus disposal programs, of the international wheat economy, and of international financing. Neither time nor funds were available to acquire a more thorough knowledge or to develop more complete proposals.

The statistics used in this study are felt to be the best available. Even so, as people familiar with international statistics know, they need to be interpreted with caution. The author therefore has sought to use them only to point out trends or very general comparisons; especially when dealing with statistics derived from different sources.

CHAPTER II

DEFINITIONS OF TERMS AND CONCEPTS

The terms underdeveloped countries, economic growth, wheat surplus, surplus disposal, and concessional sales are used widely in this study. While they are somewhat familiar terms, the understanding of them tends to vary from person to person. Thus brief definitions and examples of each at this point should help clarify the meanings attached to them in this study.

Underdeveloped Countries

Definition

An economically underdeveloped country is one in which the material living conditions are appreciably inferior to those of more developed nations. This mass poverty is a chronic condition and not the result of some temporary set-back. The performance of the country's economy could be substantially improved by methods that are known and proved.

Per capita national income is the measure used in comparing the relative development of countries. The use of this measure is possible only because of the great advances that the United Nations Statistical Office has made in collecting and publishing national income statistics.

Classification

An arbitrary dividing line must be used if one is to classify countries as either developed or underdeveloped. The one used here is that of three hundred dollars ($300.00) per capita national income.

Those countries having this level of income or over are called developed and those below are considered underdeveloped.

Table VII in the Appendix lists the per capita national incomes in 1957 for over forty nations. The countries on that list which would be classified as underdeveloped are as follows:

Argentina	Egypt	Mexico
Belgian Congo	Greece	Pakistan
Brazil	Guatemala	Peru
Burma	Honduras	Portugal
Ceylon	India	Thailand
Ecuador	Indonesia	

This is by no means a complete list of the world's underdeveloped countries. It does however show most of the larger ones and those that are of greatest importance to the surplus wheat disposal question.

Economic Growth

Definition

Economic growth refers to the phenomenon of a nation's people using their resources in such a manner that they bring about a sustained increase in per capita goods and services. This growth is not just a natural occurance dependent on the available natural resources. It is the result of human effort.

A good measure of economic growth is the rate of increase in per capita product at constant prices. This can be calculated from the index numbers of per capita products for some forty countries as published by

the United Nations Statistical Office and as shown in Table VIII of the Appendix.

The Stages of Growth

This concept dealing with different stages a country passes through in moving from a traditionally stagnant economy to one of self-sustained growth, has been developed by Millikan and Rostow of the Massachusetts Institute of Technology.[8]

The first stage is the establishing of the preconditions for growth. In this period the idea spreads that economic progress is possible. Education and basic utilities are expanded. Growth is limited because domestic capital is short and even if foreign capital were available, the ability to absorb it effectively is very low. Millikan and Rostow estimate that the United States passed through this stage in about fifty years (1790-1840) but exceedingly good opportunities existed.

The second stage is the take off stage. After passing through the precondition stage, the nation's economy begins to expand. New technology spreads as the people are better educated and willing to accept it. The need for foreign capital is great even though the rate of domestic savings is increasing and helping to meet investment demands. It is estimated that this stage may last one or two decades. India is a country thought to be in this stage.

The third stage of self-sustained growth is one of regular but

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[8] M.F. Millikan, and W.W. Rostow, A Proposal -- Key to an Effective Foreign Policy, Harper and Brothers: New York, 1957.

sometimes fluctuating growth. Modern and efficient production is prevalent. Domestic savings are about sufficient to meet investment demands and the need for foreign capital diminishes. This is the stage that the United States, Canada, most all of the European countries, Australia, New Zealand, the Union of South Africa and Japan are in now.

The Wheat Surplus

It is not possible to define the wheat surplus in objective terms. The best one can do is define what the major exporting nations consider to be their surplus stocks.

Definition

The wheat surplus in a country is that quantity of wheat in excess of what is considered "normal" or desired carryover. Certain quantities of carryover are desirable as protection against a short crop or national emergencies of some sort.

Surplus in Major Exporting Countries

Using the above definition, it is necessary to know the "normal" carryovers for the major exporting countries before it can be determined what part of their total carryovers should be considered as surplus. Estimates of normal carryovers for the United States, Canada, and Australia were given in speeches at the International Wheat Surplus Utilization Conference. Robert Post of the Agricultural Marketing Service used the figure of 500 million bushels as the desired or normal carryover for the

United States.[9] Arnold W. Platt, president of the Alberta Farmer's Union gave 178 million bushels as Canada's normal carryover.[10] Australia's normal carryover was stated by R. A. Sherwin, Australian Agricultural Attache to be approximately 30 to 40 million bushels.[11] These figures and the author's estimate of 65 million bushels normal carryover for Argentina were used to calculate the wheat surplus in the four countries for three alternate years. The results are given in Table II. This does not give a complete picture of the current wheat surplus however as the United State's carryovers have been increased sharply since 1957. There are indications that the United States surplus, as defined here, may approach one billion bushels by July 1, 1960.

Surplus Disposal

There are essentially three ways for a nation to deal with agricultural surpluses: reduce production, increase domestic consumption, or increase the volume of exports. Special programs to increase the volume of exports are commonly called surplus disposal. The best known and largest surplus disposal programs are those of the United States authorized by Public Law 480 and Section 402 of the Mutual Security Act. Canada and Australia have also made some surplus commodities available under the Colombo Plan for aid to South-East Asia countries.

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[9] International Wheat Surplus Utilization Conference Proceedings, pp. 22 and 23, Economics Department, South Dakota State College: Brookings, South Dakota, 1959.

[10] Ibid., page 34.

[11] Ibid., page 98.

TABLE II. THE WHEAT SURPLUS IN MAJOR EXPORTING COUNTRIES

Year[1] and Country	Carryover	Normal Carryover[2]	Surplus
	— million bushels —		
1953			
United States	606	500	106
Canada	383	178	205
Argentina	73	65	8
Australia	38	35	3
			322
1955			
United States	1,036	500	536
Canada	537	178	359
Argentina	88	65	23
Australia	95	35	60
			978
1957			
United States	909	500	409
Canada	730	178	552
Argentina	70	65	5
Australia	43	35	8
			974

[1] Crop year, beginning July 1 in United States, August 1 in Canada, and December 1 in Argentina and Australia.

[2] Estimates.

Public Law 480

Public Law 480 was enacted by the 83rd Congress for the purpose of promoting the economic stability of American agriculture, expanding international trade in farm products, encouraging economic development in friendly nations, and furthering the collective strength of the free world. Responsibility for these overall objectives was assigned to a policy committee made up of top officials from the Department of Agriculture, Commerce, and State, the International Cooperation Administration (ICA), and the Bureau of the Budget. The Department of Agriculture heads a working group, composed of the above agencies plus others, which coordinates day-to-day operations of the programs. All disposals under this law are supposed to be in addition to the usual commercial sales of the United States and other friendly nations.

Title I of the law provides for the selling of agricultural commodities for local currencies (the currency of the importing nation). The negotiations for the sales are made by the United States Government with other governments but the agricultural commodities are moved through regular commercial channels. The local currencies accruing to the United States are used for many purposes; the primary one being for loans back to the importing nations to be used for economic development projects. Other uses include those of meeting U. S. obligations abroad, market development programs for U. S. farm products, and loans to U. S. business firms or affiliates for business development and trade extension in those countries.

Title II of the law provides for grants of surplus commodities

to foreign governments in times of famine and other emergency situations. There is no compensation involved and these grants are only temporary aid given when disaster occurs.

Title III authorizes the bartering of surplus commodities for strategic and other materials less subject to deterioration and for giving surplus commodities to private relief organizations such as CARE, UNICEF, the Catholic Welfare Service and like organizations. The barter program tended to displace dollar sales of agricultural commodities and as a result has been substantially reduced. The donations to private relief agencies are under Section 416 and are termed "people to people" relief programs because in effect the people of the United States are giving the food through the taxes they pay.

Section 402

Congress in 1954 amended the Mutual Security Act of 1951 to include Section 550 which provided for the selling of surplus agricultural commodities to friendly nations for local currencies. This was changed in 1955 to Section 402 which is similar to Section 550 except that the provisions for protecting normal commercial marketings have not been included. Sales of wheat under this program have been diminishing as it is felt that it is to the advantage of all nations concerned that the bulk of such concessional sales be made under Title I of Public Law 480, which is supposed to protect commercial marketings.

Concessional Sales

The term "concessional sales" is almost self-explanatory. It is

simply those sales where special terms for payment are given to the importing countries. The most common types are those under Title I of P. L. 480 and Section 402. In those the currency of the importing country is accepted in payment and then most of it is loaned back to the importing countries for development projects. Barter transactions are also considered as concessional sales.

CHAPTER III

THE SETTING OF THE PROBLEM

The agricultural problems of the world are complex. To place this study in a proper perspective it was necessary to review the food and wheat situations of the world, and the surplus wheat disposals made by the United States. These topics were dealt with very thoroughly in speeches given by recognized authorities at the International Wheat Surplus Utilization Conference.

The first section which follows on the food situation is a review of a paper given by Dr. Mordecai Ezekiel of the Food and Agriculture Organization of the United Nations.[12] The second one on the wheat situation is a review, except for the concluding summary on carryovers, of the address given by Raymond Vickery from the Grain Division of the United State's Foreign Agricultural Service.[13] The third section reviews the disposals of wheat made by the United States in past years and the evaluation of those disposals as given at the Conference.

World Food Situation

Agricultural production in the world is about 40% above pre-World

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[12]Mordecai Ezekiel, "The State of Food and Agriculture Today", International Wheat Surplus Utilization Conference Proceedings, Economics Department, South Dakota State College: Brookings, South Dakota, 1959.

[13]Raymond Vickery, "A Discussion of Some of the Broader Aspects of the Current World Wheat Economy", International Wheat Surplus Utilization Conference Proceedings, Economics Department, South Dakota State College; Brookings, South Dakota, 1959.

War II levels. This is somewhat more than the world's population has increased and per capita consumption has been increasing. There is however still tremendous gaps between the diets of the poorer and the better-fed of the world as production has increased faster in the more-developed and less-populated areas than in the less-developed and more-populated areas. As Dr. Ezekiel so aptly stated, "seems the rich do get richer and the poor poorer."

International trade in agricultural products has increased in recent years. While Europe has not quite returned to its pre-war level of imports, the Far East which was formerly a net exporting area has now become a net importer of agricultural products. The increase in imports has been due in part to the surplus disposal activities of the exporting nations.

World economic development appears to be the hope for solving the twin problem of surpluses and deficits. Surplus disposal can help promote development, especially in areas such as Asia, where there is considerable room for expanding food consumption.

World Wheat Situation

Production

World wheat production is about 20% above pre-war production, but per capita production has remained about constant (2.7 to 2.8 bushels) over the last thirty years. Important shifts though have taken place in the proportion of total production being produced in certain areas.

The "Big IV" grain exporters, Argentina, Australia, Canada, and the United States have traditionally produced about one-fourth of the world's wheat crop. There now appears to be a downward trend in the proportion they grow. Output has increased considerably in Western Europe due to intensive cultivation and larger acreages in some countries. In the U. S. S. R. an even larger increase has taken place and it is now estimated that they produce more wheat annually than the "Big IV" do. Other countries that have significantly increased their wheat production are Iran, Syria, India, Brazil and Mexico.

A major factor in the formation of the world's wheat production pattern has been government support prices. At present they are used widely to protect farm incomes or to encourage certain levels of domestic output.

Consumption

As with production, total consumption of wheat is rising but per-capita-wise there has been little change over the last thirty or forty years. There is however two distinct trends in per capita consumption which tend to offset each other.

In countries where wheat is the main foodgrain and incomes are relatively high, per capita consumption is slowly declining. It is only because of growing populations, that their total consumption is remaining fairly stable.

In the low income countries where rice and coarse grains are mainly consumed, there is a tendency to increase consumption of wheat whenever incomes increase. In these countries per capita and total

consumption both are rising.

This tendency is supported by several studies which showed that up to a certain level of income people will generally increase their consumption of wheat. Beyond that point, the tendency is to substitute high protein food such as meat and dairy products for wheat products.

Trade

Record volumes of wheat have moved in international trade in recent years, again due in part to surplus disposal activities of the United States.

The major exporters, the so-called "Big IV", have accounted for approximately four-fifths of the world's wheat exports for many years. Recently France has shown signs of becoming a permanent exporter of considerable note. Russia and Italy also have possibilities for doing the same.

Europe has long been the major import area of the world. Roughly half or more of the world's annual exports of wheat have moved to that market for many years. Lately, European imports have shown what may be a declining trend due to increased production and fairly stable consumption.

Asia's imports of wheat have grown remarkably. Imports ran over 350 million bushels annually during the 1956-57 and 1957-58 marketing years compared to imports of around 70 million in pre-war years. Imports have also increased in South America and Africa but not to such a great extent. The pressure of population is not nearly so great in the latter two continents.

In general, it can be said that Asia offers the best hope for increasing the volume of wheat in world trade.

Carryover

Wheat that is neither consumed nor exported becomes carryover stock and adds to the supply of the following year. These stocks have reached burdensome proportions in the major exporting nations, particularly in Canada and the United States. Stocks in these two are considerably greater than their annual consumption. The present carryover of the United States is estimated to be more than 1,250 million bushels.[14] This is more than the world's total volume of international trade in wheat during the 1957-58 marketing year.

An attempt has been made to illustrate the world's wheat problem in Figure 1. It shows the world's annual production, available supply, and apparent disappearance. Available supply is production plus carryover from the preceding year (carry-in) in the four major exporting countries and apparent disappearance is the difference between the available supply and the carryover at the end of the year (carry-out) in the same countries.

Carryover of wheat was no problem in 1951. Large wheat crops in 1952 and 1953, much greater than apparent disappearance, resulted in large carryovers. These reached approximately one and one-half billion bushels by 1954. From then through 1956, disappearance kept pace with rising

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[14] The Wheat Situation, WS-163, p. 7, United States Department of Agriculture: Washington, D. C., 1959.

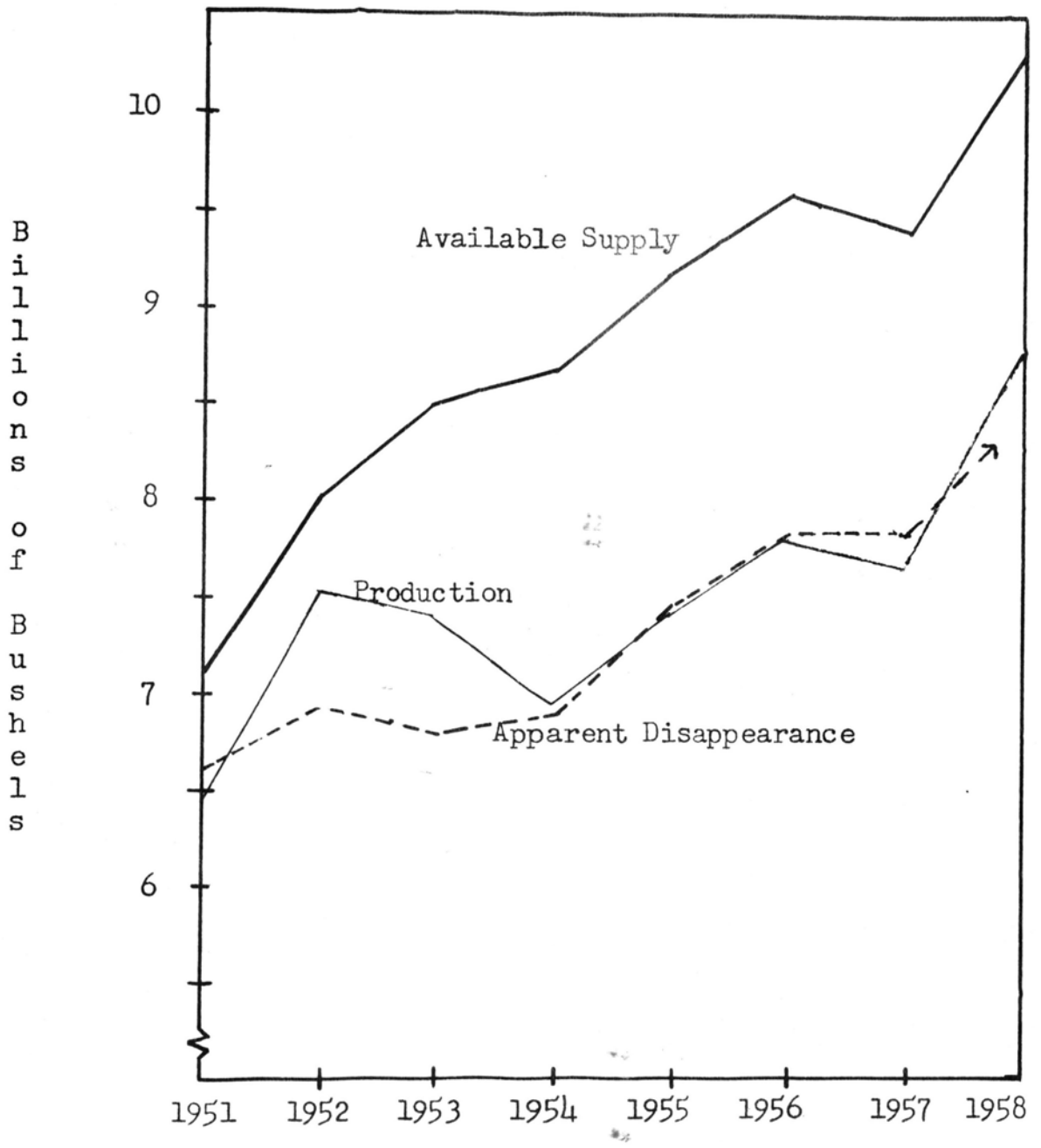

Figure 1. Wheat: World Production, Available Supply, and Apparent Disappearance

production and carryovers were held fairly constant. In 1957, disappearance surpassed production allowing a slight reduction in carryover stocks. With world wheat production reaching new heights in 1958, indications are that 1959 carryover stocks will be boosted to over two billion bushels.

It is interesting to note that the years where apparent disappearance kept pace with production are the same years in which the United State's surplus disposal programs have been in effect.

United States Disposals of Surplus Wheat

Magnitude and Recipient Countries

The United States in the first four years of Public Law 480 operations exported nearly twice as much wheat under the special government disposal programs as they did for cash in the commercial markets. Table III is a summary of the total wheat exports of the United States during those years and Table IV lists the countries and the quantities of wheat they received under Title I.

Concessional sales under Title I accounted for the largest sales, with concessional sales under Section 402 and barter deals also moving sizeable quantities. Title I sales were greatly expanded in the latter years while the deals under the other two have been restricted. Emergency grants under Title II remained fairly constant while the donations to private overseas relief agencies (Section 416) have been expanding.

Evaluation

Public Law 480 was evaluated in the "Summary of Findings" of the

TABLE III. U.S. WHEAT[1] EXPORTS BY GOVERNMENT PROGRAMS

Year[2]	Title I	Title II	Barter	Section 402	Section 416	Others (cash)	Total
			— million bushels —				
1954-55	24	16	46	71	1[3]	116	274
1955-56	94	12	67	65	3	105	346
1956-57	201	12	87	64	12	173	549
1957-58	176	14	10	31	18	152	401
Total	495	54	210	231	34	546	1,570

[1]Including wheat flour, in grain equivalent.

[2]Marketing year, July 1 to June 30.

[3]Shipped under Army Civilian Supply Program.

Source: The World Grain Trade, pp. 26-31, Foreign Agricultural Service, U.S.D.A.: Washington, D.C., April, 1959

TABLE IV. U.S. WHEAT[1] EXPORTS UNDER TITLE I, P.L. 480 BY COUNTRY OF DESTINATION

Country of Destination	1954-55	1955-56	1956-57	1957-58	4 Year Total
			— 1,000 bushels —		
Austria	—	1,455	1,069	1,117	3,641
Brazil	—	15,899	13,551	5,721	35,171
Chile	—	1,345	6,287	1,198	8,830
China: Taiwan	—	—	—	2,036	2,036
Colombia	—	2,186	437	1,885	4,508
Ecuador	—	547	492	—	6,945
Egypt	—	10,784	—	—	10,784
Finland	—	676	3,094	1,845	5,615
Greece	—	3,560	8,422	2,921	14,903
Iceland	—	—	018	331	349
India	—	—	62,960	68,964	131,924
Indonesia	—	—	3,153	103	3,256
Iran	—	1,892	2,300	1,102	5,294
Israel	1,811	4,604	3,208	5,486	15,109
Italy	—	897	—	—	897
Japan	—	13,680	13,180	4,119	30,979
Korea, S.	—	367	3,825	11,152	15,344
Pakistan	—	—	17,108	20,940	38,048
Paraguay	—	—	988	—	988
Peru	671	2,807	1,426	1,841	6,945
Poland	—	—	—	16,277	16,277
Portugal	—	507	3,373	—	3,880
Switzerland	—	1,510	1,088	—	2,598
Turkey	3,729	4,108	22,605	10,714	41,156
Yugoslavia	17,391	27,521	31,952	18,339	95,203
Total	23,802	94,345	200,536	176,091	494,774

[1]Including wheat flour, in grain equivalent.

Source: The World Grain Trade, pp. 26-31, Foreign Agricultural Service: Washington, 1959.

International Wheat Surplus Utilization Conference. It was judged to be a very good attempt to utilize the surpluses as fully as possible to speed up the economic development of the poorer countries. It was also stated that the United States and other countries able to help, should continue and expand their aid to the underdeveloped countries.

The legislative or administrative changes recommended for improving P. L. 480 were such as to authorize concessional sales for up to five years in advance, strengthen the safeguards for the exports of other friendly nations, limit the using of local currencies to meet obligations that would ordinarily be paid in dollars, give receiving countries more flexibility in the use of local currency loans, and restrict barter deals as much as possible.

CHAPTER IV

WHEAT IMPORTS BY UNDERDEVELOPED COUNTRIES

The level of commercial wheat imports, if any, that the underdeveloped countries should be required to maintain in addition to concessional purchases is a key issue that will have to be resolved before the exporting nations can agree on a cooperative surplus wheat disposal program. This issue may not be easy to resolve as the opinions on it range from those who contend all underdeveloped areas could just as well be declared non-commercial markets to those who claim all concessional sales are harmful and should be stopped. The reasons for such diverse opinions may well be due to the exporting countries thinking of surplus disposals primarily with regard to their own problems and only secondarily with regard to aiding the underdeveloped countries. Since such approaches have not proved fruitful, a new approach which considers primarily the needs and abilities of the underdeveloped countries is being presented here.

In this new approach the author examined the general relationships between wheat imports and food grain production and income in Brazil, India, Japan, and Pakistan for the years 1951 through 1957. It was hoped that in this manner the hypotheses as stated in Chapter I could be tested and a basis might be uncovered that would be useful in determining the level of commercial wheat imports the underdeveloped countries should be required to maintain.

Preliminary Considerations

Considerable time was spent in review of literature and discussions with economists in developing the approach used here. The items that received major consideration are discussed in the paragraphs that follow.

Factors Considered

The factors considered in analyzing the reasons for different annual quantities of wheat imports by the respective countries were their per capita production of major foodgrains and their per capita national income. It was thought that the per capita foodgrain production would indicate an underdeveloped country's need for foreign food in that year, since foodgrains are a major item in the diets of people in poorer lands. Thus by comparing the annual relationships between wheat imports and per capita foodgrain production it could be established whether or not a country was an important importer of wheat only during times of extreme need or when foreign wheat was available on concessional terms.

Per capita national income was thought to be not only a factor that indicated a country's relative ability to purchase its food needs but also a factor that indicated effective per capita demand for wheat. This is because wheat is generally considered superior as a foodgrain to other grains, especially coarse grains such as corn, grain sorghums, and etc. and one would expect higher per capita consumption of wheat in underdeveloped countries with relatively high per capita income than in poorer countries.

Population is also an important factor. It was for this reason

that production and income were placed on per capita terms. However since gross wheat imports and not per capita imports were being considered, it was necessary to remember when thinking of imports that India's population is at least four times greater than the respective populations of Japan, Pakistan, or Brazil.

Carryover stocks of foodgrains, and of wheat in particular, were originally thought to be a factor worth considering in this analysis. However information on carryovers was not available for the entire period and that which was available showed that the overall effect of carryovers on total foodgrain supplies was very small in most importing countries.

There were innumerable other factors that could have been used. They were not used because they were felt to be of minor importance in comparison to the factors employed and because a more detailed analysis was beyond the scope of this study.

Countries Selected

The four underdeveloped countries selected were Brazil, India, Japan, and Pakistan. These countries were chosen for several reasons.

First they were the four underdeveloped countries, as defined in this study, that had received the bulk of United States wheat disposals under Title I of Public Law 480 (see Table IV, Chapter III) and they might reasonably be expected to apply for more wheat on concessional terms in the future. It seemed that they were the key countries to discuss in regard to future disposal programs.

Secondly, they represent different levels of per capita national income - Japan at about $250.00, Brazil a little over $150.00, and

Pakistan and India just over $50.00 and $60.00 respectively. This was important in trying to determine the effect of per capita income on wheat imports. Since a seven year period did not seem to be long enough to judge the effect of a change in a country's income on its wheat imports, it was thought that the effect of this factor could be judged by comparing the general level of wheat imports by countries with significantly different levels of per capita income.

Years Selected

The years 1951 through 1957 were chosen primarily because they cover years before and during the operation of Public Law 480 and secondarily because the preceding years were not considered normal ones. Japan was under occupation following the war, while India and Pakistan had just received their independence and were troubled with the difficulties of partition.

Procedure Followed

The annual per capita foodgrain production and annual wheat imports of each country were plotted on the same graph. Per capita foodgrain production was measured in kilos against the left-hand scale and wheat imports were given in millions of bushels as measured on the right-hand scale. A solid line shows total wheat imports for each of the seven years while a broken line shows only commercial imports for the last four years. The difference between total and commercial imports represents the quantities of wheat shipped to those countries by the United States under special export programs.

The purpose of this type of graphic presentation was to bring out the relationship between domestic foodgrain production and wheat imports for the years before and during the operation of Public Law 480. Normally one would expect an inverse relationship between domestic production and imports. In years where this was not the case, an explanation was sought.

This relationship was also used to test the hypothesis that underdeveloped countries are only important wheat importers during years of relatively low per capita foodgrain production. The test is whether or not the country's commercial wheat imports declined to or approached zero in years of relatively high domestic foodgrain production.

To judge the relationship of per capita national income and wheat imports it was necessary to compare the general level of wheat imports by countries with different per capita incomes. It was anticipated that countries with the higher per capita incomes (Japan and Brazil) would also be the importers of the largest quantities of wheat on commercial terms. Thus this relationship was used to test the hypothesis that per capita national income is an indicator of underdeveloped countries relative importance as commercial wheat importers. The hypothesis would be accepted if the general levels of commercial imports by the four countries followed a pattern similar to their per capita income ratings.

Foodgrain Production and Wheat Imports

The relationship of per capita domestic foodgrain production and wheat imports in the four countries are illustrated in Figures 2,3,4, and

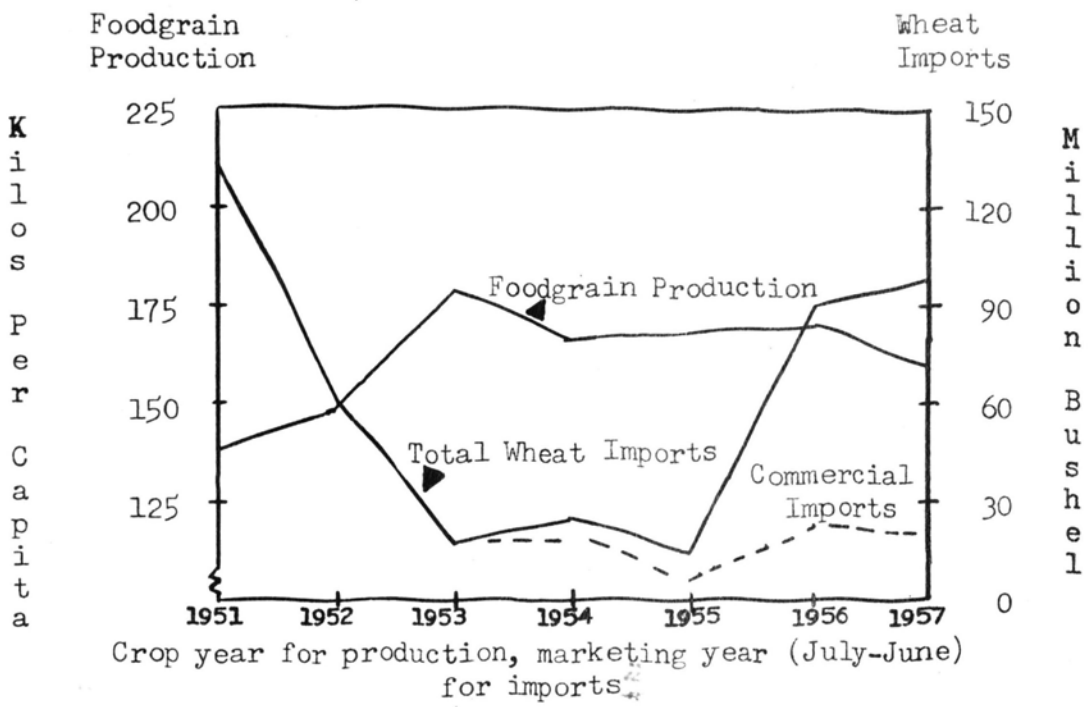

Figure 2. India's Foodgrain Production and Wheat Imports, 1951-1957

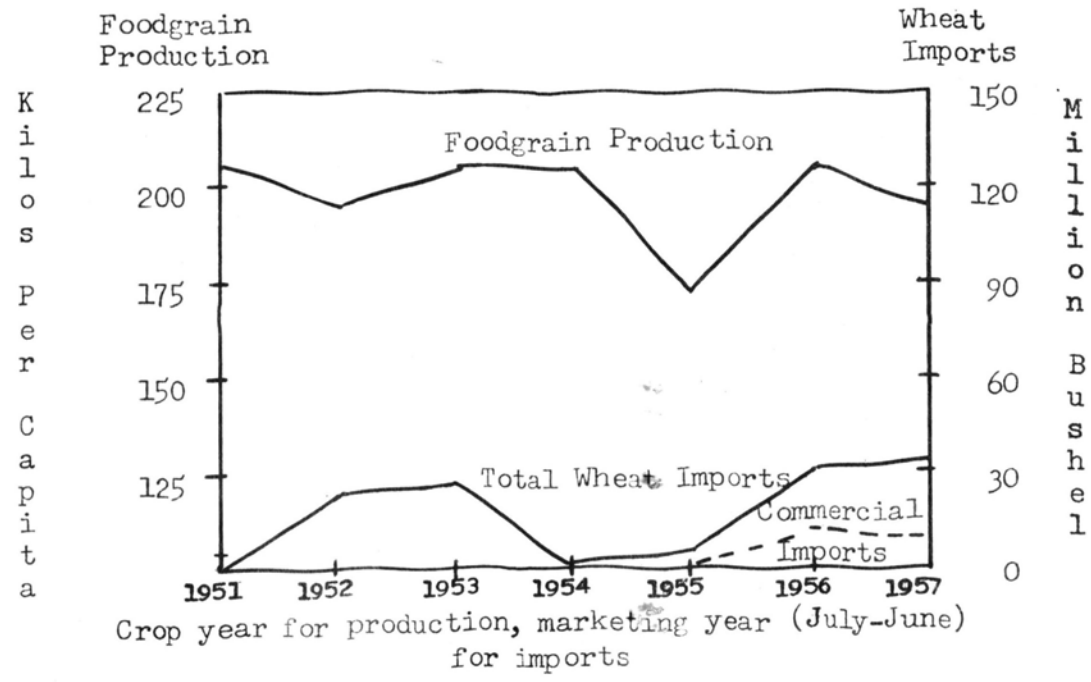

Figure 3. Pakistan's Foodgrain Production and Wheat Imports, 1951-1957

5. Corresponding tables with the complete data are included in the Appendix.

These relationships had to be interpreted with caution as the data used were not perfectly comparable. The crop year for which production is given, begins on April 1 for the three Asiatic countries and on December 1 for Brazil. The marketing years for which all imports are reported are from July 1 of the year listed to June 30 of the following year. Thus the crop and marketing years overlapped to a large degree and were thought adequate to indicate general relationships.

The difference between total imports and commercial imports was arrived at by subtracting the United State's reported special export shipments to those countries from the countries total imports as recorded by the Food and Agriculture Organization. Thus here again the data used were not perfectly comparable. However it was felt that the error, if any, would not be so large as to change the very general relationships being sought in this analysis.

In India

India imported large quantities of wheat in 1951, 1952, 1956 and 1957. Observing per capita production of foodgrain (rice, wheat, and grain sorghums) for those years it is easy to see that a need existed for large grain imports in the earlier two year period but the need in the later period is not so apparent. It can only be accounted for by explaining the situation in those years.

Self-sufficiency in foodgrain is one of India's production goals in its drive for economic development. The sharp increase in foodgrain

production from 1951 to 1953[15] made this goal seem reasonable. However, the decline since then has created a grave problem for the Indian government. With deficit financing of development projects providing the people with more money, domestic foodgrain production was counted on to meet the increased demand for foodgrains. Since production was not sufficient, India was faced with rapidly rising foodgrain prices in 1955 and 1956. Large imports were required to keep down this inflationary pressure.

As shown in Figure 2, the large imports of 1956 and 1957 consisted largely of wheat obtained on special terms or grants from the United States. While it can not be ascertained that these concessional imports did not replace commercial sales that might have been made in their absence it does seem clear that the concessional sales allowed India to maintain its planned imports of capital equipment for development projects.

It should be pointed out that the wheat imports of 1951 and 1952 also included large quantities of United States wheat obtained under a "wheat loan" during the 1951 food crisis. Thus the years when small quantities of wheat were purchased on concessional terms were years of relatively low imports. However even in those years and later years, commercial imports seemed to average around 15 to 20 million bushels annually and it would not seem reasonable to conclude that India was an important importer only during years of food shortages.

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[15] Part of this increase may have been due to wider statistical coverage rather than an actual increase. The 1953 production was also helped by favorable weather conditions.

In Pakistan

Pakistan's wheat imports and per capita production of foodgrains (rice and wheat) as shown in Figure 3 do not appear to follow a set pattern. Wheat imports are up in some years when per capita foodgrain production is also high. In 1955 foodgrain production dropped sharply and imports increased much less than would have been expected. However, if wheat imports are compared only with per capita wheat production (see Table XIII in the Appendix), an inverse relationship is readily apparent. The explanation apparently lies in the fact that East Pakistan is a rice producing and consuming area while West Pakistan produces and consumes wheat primarily. Thus the 1955 foodgrain shortage of East Pakistan was really a rice shortage and that might explain why large imports of wheat were not made.

Pakistan also strives for self-sufficiency in foodgrain production but per capita production did not show any upward trend during the 1951-1957 period. West Pakistan might then be expected to import wheat during years of short domestic wheat production. Wheat imports into East Pakistan may depend upon Pakistan's economic development and the availability of concessional terms.

Pakistan's commercial imports in 1956 and 1957, when compared to wheat production in those years, seem to have been at the expected level. It would appear that the concessional imports of those years were in addition to commercial sales but it may be that East Pakistan was also having an increased demand for wheat because of economic development. In the latter cause, it could only be said that concessional purchases

allowed Pakistan to use its foreign exchange savings for other needs.

In Brazil

The picture for Brazil as shown in Figure 4 is quite different than those for the other countries. While the two factors fluctuated inversely in most years the outstanding characteristics were the upward trend in per capita production of foodgrains (corn, rice, and wheat) and the relative stability of total wheat imports. Since foodgrain production, and especially wheat production increased tremendously in this period one might have expected total wheat imports to decline. Since they did not it is possible that concessional sales helped keep Brazil's total imports from declining in this period. Evidence was not sufficient to judge the situation.

In Japan

Total wheat imports by Japan showed a rising trend for the period. While imports fluctuated considerably in the first three years, the trend was very steady during the last four years. Commercial imports from 1954 to 1956 appear to have been somewhat lower than one would have expected them to be in view of the relationship between per capita foodgrain production and wheat imports in the preceding years. There may be room for argument that concessional sales reduced commercial imports significantly.

Japan's per capita production of foodgrains (rice and wheat) showed a rising trend and also a rather surprising amount of fluctuation from year to year. It is also noteworthy that Japan's wheat production and acreage declined steadily from 1954 to 1957. In some quarters in Japan

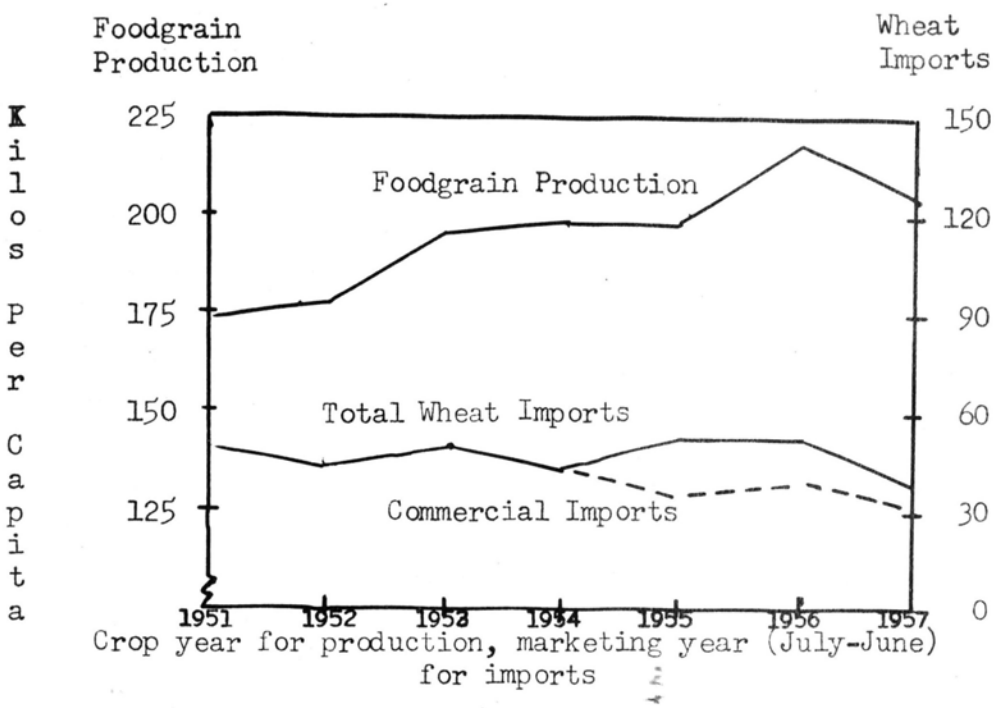

Figure 4. Brazil's Foodgrain Production and Wheat Imports, 1951-1957

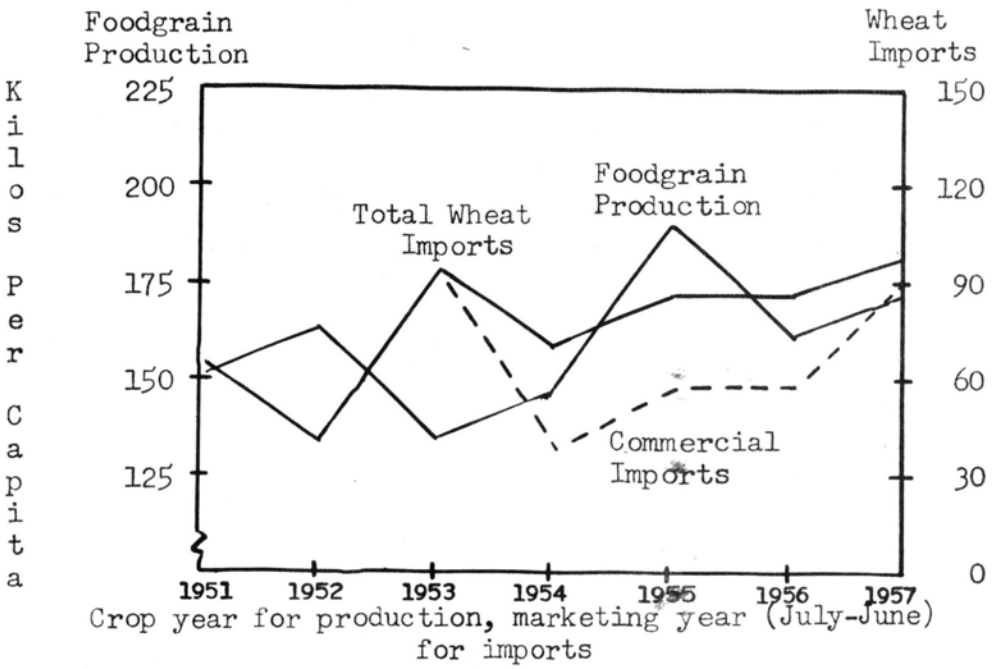

Figure 5. Japan's Foodgrain Production and Wheat Imports, 1951-1957

it is contended that the large concessional imports have affected unfavorably their domestic agriculture.[16]

Another interesting point is that Japan's total imports in 1957 were composed largely of commercial purchases. This might indicate that Japan is nearing a stage where concessional terms are not so essential for continued high imports.

Income and Wheat Imports

A relationship between per capita income and commercial wheat imports was sought by comparing the general level of commercial imports into the four countries, each of which had a different level of per capita income. Since Japan had the highest per capita income, Brazil the next highest, and India and Pakistan both relatively low incomes, it was wondered if the level of commercial wheat imports would follow a similar pattern.

A visual comparison of the commercial wheat imports of the four countries as shown in Figures 2, 3, 4, and 5 indicates that Japan was the largest commercial importer of wheat. In two of the seven years it imported approximately ninety million bushels or more on commercial terms and in no year was its imports much under forty million bushels. Also its commercial imports comprised a very large portion (about 90%) of its total wheat imports in 1957.

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[16] A Note on the Utilization of Agricultural Surpluses For Economic Development in Japan, p. 29, Economic Commission for Asia and the Far East: Bangkok, Thailand, 1958.

Brazil was considered to be the next most important commercial importer, having had imports ranging from thirty up to fifty million bushels annually. Its commercial imports comprised a relatively large share (about 70%) of its total imports for the years 1955-1957.

India ranked next in order as a commercial importer but it must be remembered that its population was over four times greater than that of any of the other three countries. Thus on a per capita basis it would have to be considered the least important. Its commercial imports made up a small part of its total wheat imports. The percentage would appear to be about 15% in 1956 and 1957 when account is taken of the fact that the commercial imports shown for those years also include some concessional imports from Canada and Australia.

Pakistan ranked last in the comparisons, having commercial imports that ranged from zero to about twenty-five million bushels.

Even though these countries did appear to rank in importance as commercial importers in the same order as their per capita incomes were ranked, it does not seem reasonable to conclude that per capita income alone can be used to judge a country's relative importance as a commercial importer. The differences in a country's population and in its wheat production are two additional major factors that would have to be considered, and there are likely other factors that should be taken into account.

Conclusions

It has been difficult to draw conclusions from the brief and very general analysis made. It was possible though to determine the validity of the hypotheses and to point out what appeared to be a suitable basis for a rule on the level of commercial wheat imports an underdeveloped country should maintain in addition to concessional purchases.

The first hypothesis was that underdeveloped countries with per capita national incomes of under $100.00 are commercial wheat importers only in years when their per capita foodgrain production was relatively low. This hypothesis was not borne out by the examination of per capita foodgrain production and wheat imports by India and Pakistan. This indicated that even the very poor countries imported some wheat for reasons other than a dire necessity for food. It would not seem reasonable therefore to agree with those who contend all underdeveloped areas should be declared completely non-commercial markets for foreign wheat. It would seem fair that underdeveloped countries desiring wheat on concessional terms should at least maintain commercial imports at the approximate level of their commercial imports during years of high domestic production. For the four countries, Japan, Brazil, India, and Pakistan this would mean average annual commercial imports of about 60-75, 30-40, 15-20, and under 10 million bushels of wheat respectively.

The second hypothesis stated that the per capita national income of an underdeveloped country is an indicator of its relative importance as a commercial market for wheat. This turned out to be an over simplification. The analysis pointed up other factors of equal or more

importance than per capita income.

The analysis also pointed out differences in the need for concessional terms on foodgrain imports by countries with significantly different levels of per capita income. While all four countries were apparently experiencing increased demands for foodgrains, the two poorer countries, India and Pakistan, were the ones having the least success in expanding per capita foodgrain production and also the ones with the least ability to buy on commercial terms. Thus their needs for concessional terms on foodgrain imports seemed to be much greater than the needs of Brazil and Japan. There also appeared to be indications in Japan that concessional sales might have displaced some commercial imports and adversely affected domestic production. This all seems to point to the generalization that underdeveloped countries with relatively high per capita incomes should be required to purchase a larger proportion of their total wheat imports on regular commercial terms than countries with lower per capita incomes.

It is best to state the requirements for commercial imports in proportional rather than absolute terms. There are a number of reasons for this. The analysis showed that foodgrain production fluctuated considerably. If countries were required to import fixed quantities of wheat annually, this might unfavorably affect their domestic producers in years when foodgrain production was substantially increased and it might also cause the countries to cut sharply their imports of rice and other foodgrains. Neither of those situations would be desirable.

To sum up, it seemed that even the poorest of the underdeveloped countries should be required to import some wheat, but a relatively small

percentage, on commercial terms while countries with higher incomes should be required to import progressively larger portions of their total imports on commercial terms. Japan appeared to be rapidly approaching a point where concessional terms might not be needed at all.

CHAPTER V

SUGGESTED RULES FOR EQUITABLE DISPOSALS OF SURPLUS WHEAT

The conclusions from the preceding chapter seemed to present a basis for a rule that might be followed in making concessional sales of wheat to underdeveloped countries, without seriously disrupting commercial exports to those areas. This basis and a proposed rule are offered for consideration in the first part of this chapter.

If the exporting nations were to accept a rule along the lines of the one proposed, they would also need a rule for determining which exporting country should supply specific requests for wheat on concessional terms. The second section describes a basis and a rule that might be appropriate for handling that problem.

A discussion follows on procedures that might be followed and on anticipated results if the two proposed rules were to be adopted.

Alternate rules are suggested in the final section of the chapter.

A Rule for Maintaining Commercial Markets

The Basis

As a country's per capita national income increases, ordinarily its need for foodgrains on concessional terms decreases.

The Proposed Rule

Underdeveloped countries that want to receive wheat on concessional terms should agree to purchase on commercial terms a prescribed percentage

TABLE V. COMMERCIAL WHEAT IMPORTS REQUIRED OF UNDERDEVELOPED NATIONS RECEIVING WHEAT ON CONCESSIONAL TERMS

Per Capita Income	Percent of Total Wheat Imports	
	Commercial Purchases	Concessional Purchases and Grants
U. S. $		
50.00	10	90
75.00	20	80
100.00	30	70
125.00	40	60
150.00	50	50
175.00	60	40
200.00	70	30
225.00	80	20
250.00	90	10

of their total import needs for that year -- the percentage required to depend on their per capita national income. An outline of this rule is shown in Table V. The percentages were derived by using the 1957 imports and incomes of Japan and India as guidelines. Thus India with a per capita income of about $61.00 was thought to have imported approximately 15% of its total wheat imports on commercial terms and Japan, with a per capita income of about $250.00, appeared to have purchased 90% commercially. For Brazil and Pakistan in 1957, this rule would not have required them to purchase commercially as much wheat as they did. This does not however mean that they would have purchased less

commercially even if they could have. Brazil for example would probably still have maintained its commercial imports from Argentina and Uruguay because of its interest in two-way trade with them.

The main features of the table are that it does not prescribe absolute quantities and it provides for gradual changes as per capita income rises. The quantity imported is thus affected by domestic food-grain production, population and capita income as usual. This should provide some protection for domestic producers and for countries that export competing foodgrains. Having the percentage imported commercially increase as incomes rises should assure the growth of the commercial world market.

It was originally thought that the required commercial imports could be purchased on the open market at competitive prices -- the importing country to be responsible for seeing that the required percentage, with some allowance for convenience, were met. A strong case however can be made for having at least part of the commercial purchases "tied-in"[17] with concessional deals. This would especially be true in the cases where long-term deals are necessary and the country purchases a major portion of its total wheat imports on concessional terms.

Exceptions to the rule might be made for countries having extreme financial difficulties, even if their per capita incomes were over $250.00 and for "iron curtain" countries because of political reasons.

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[17] This refers to an importing country agreeing to purchase specified quantities commercially from the country supplying them wheat on concessional terms.

A Rule For Supplying Concessional Wheat

A Basis

Each exporting country is its own best judge of what it can afford and wants to supply on concessional terms.

Since no one knows how long it will take the underdeveloped countries to achieve a stage of self-sustained growth or how able they will be to repay their debts when they fall due, the degree of aid extended to them is still largely a moral and political question. The citizens of each of the more-developed nations must decide for themselves the degree to which they are willing and able to help the less fortunate countries.

A Rule of Precedence

A rule would be needed for cases in which more than one of the exporting countries wanted to fill a specific request for wheat on concessional terms. An equitable rule might be to let the country with the greatest surplus burden (using surplus as defined in Chapter II and measuring burden by surplus per capita as shown in Table VI) have the first chance to reduce its surplus by this method, if it wanted. Looking at Table VI, it shows that Canada has had consistently the greatest burden. If the proposed rule had been in effect during those years, Canada would have been first in line to decide whether or not she wanted to make the concessional sales. In three of the years, Australia would have had second chance, if Canada declined.

The rule may at first appear over-balanced in Canada's favor.

TABLE VI. PER CAPITA WHEAT SURPLUS IN MAJOR EXPORTING COUNTRIES, 1951 - 1957

Year[1]	United States	Canada	Australia	Argentina
	— bushels per capita —			
1951	—	.8	—	—
1952	—	2.7	—	—
1953	.7	13.8	.3	.5
1954	2.7	28.8	6.5	—
1955	3.2	22.8	6.5	1.2
1956	3.2	25.0	5.5	—
1957	2.4	33.2	.7	.3

[1]July 1 in the United States, August 1 in Canada, and December 1 in Argentina and Australia.

It does not seem unfair if one considers that Canada's population is only 1/10 of the United State's and its per capita income about 2/3 as much. Furthermore, in calculating surplus, Canada's normal carryover amounted to about ten bushels per capita while the United State's normal carryover was less then three bushels per capita. The rule however might be stated in terms of total agricultural surplus and this would make the results somewhat different.

Anticipated Procedure

The major wheat exporting nations would need to form a small working group to handle initial requests by underdeveloped countries for

wheat on concessional terms. This group could be composed of a representative from each exporting country and perhaps one from the Food and Agriculture Organisation. They might meet in Washington, D.C. as all the major wheat exporting nations have agricultural officers there who could serve as their country's representative. The Food and Agriculture Organisation maintains a staff there too. It would be of convenience also because the United States would no doubt still handle most of the requests for wheat on concessional terms.

The job of the working group would be to review the initial requests received. They could check the requesting country's per capita income according to U.N. figures, and determine the terms and conditions which should apply. Then the request, along with the prescribed terms and conditions could be transmitted to the exporting countries that have indicated they are willing to make concessional sales. If more than one is willing, the one with the greatest per capita surplus would be allowed to fill the request.

Anticipated Results

The results would probably not be a great deal different than what is being accomplished under Public Law 480. However, the other exporting countries would be able to reduce their surpluses on equal terms with the United States, if they wanted, and they would be assured of a chance to compete for the uncommitted commercial purchases required of the underdeveloped countries. It would also enable them to go on record as being in favor of a highly humanitarian program.

The United States on the other hand could shake off the charge that she is dumping her wheat problem onto others and she might also be able to expand concessional sales. It is doubtful that Canada and Australia would supply very large quantities on concessional terms and if they are satisfied with the safeguards provided for commercial sales, they should not mind the United States making even larger concessional sales to countries that want them.

Benefits should also accrue to the underdeveloped countries. With the major exporters holding huge surpluses and agreed on concessional sales, they could reasonably count on having sizeable quantities of wheat available on concessional terms for perhaps another five or ten years. This would greatly aid their planning, especially since they would know the approximate future terms and conditions that would apply in their case.

Alternate Proposals

There may be other rules and procedures that would be more readily acceptable to the exporting nations.

One such plan might be to have the underdeveloped countries sign agreements to import set quantities of wheat yearly on commercial terms. In return the exporters would agree to supply at prescribed concessional terms the additional quantities they desired. This might require a more elaborate administrative organization and the pledges of the exporters to supply the necessary quantities. The quantities each should pledge, might be equitably determined by placing the contributions of each

exporting country on a per capita income and population basis.

Another plan might be to establish a multi-price system for export wheat going to the underdeveloped countries. The price could depend upon the per capita national income of the importing country. This system might be incorporated in with the International Wheat Agreement.

These two plans were not thought to be as desirable as the one outlined in this chapter. The first alternate was considered too rigid in its requirements for both importing and exporting countries. The second alternate would probably raise serious problems for the less-wealthy wheat exporting countries.

CHAPTER VI

SUMMARY

While carryover stocks of wheat have mounted to burdensome proportions in the United States and some of the other more-developed nations, a great need for more abundant foodgrain supplies exists in the underdeveloped areas of the world. Available evidence indicates that loans and grants of surplus wheat can substantially aid the underdeveloped countries in their efforts to promote economic growth and that their development should be beneficial for all nations.

The United States in recent years has acted as "food banker" for the world. Over one billion bushels of wheat alone were shipped overseas from July 1, 1954 to June 30, 1958 on concessional terms or as grants. Both the receiving countries and the United States have been generally pleased with the results but other wheat exporting countries have objected vigorously. While they approved of grants to relief agencies and to countries in times of emergencies, they contended that concessional sales reduced their commercial sales significantly and thereby caused them serious injury. This apparently led the United States to curtail concessional sales to industrialized countries and to invite the other major wheat exporting nations to join her in sharing the wheat surpluses with the underdeveloped countries.

A major obstacle blocking a cooperative agreement to share the surpluses is the controversial issue of the level of commercial wheat imports, if any, the underdeveloped countries should maintain in addition to concessional imports and grants. The arguments range from those who

claim all underdeveloped areas could just as well be declared non-commercial markets to those who contend all concessional sales should be stopped.

The major purpose of this study was to attempt to uncover an objective basis and some rules for determining the level of commercial imports an underdeveloped country should maintain in addition to imports on concessional terms and as grants. It was hypothesized that countries with per capita incomes of under $100.00 were commercial importers only in years of very low domestic production, and that per capita income is an indicator of an underdeveloped country's relative importance as a commercial market for foreign wheat.

Terms and concepts regarding economic development and the wheat surplus were defined and discussed, and a review was made of the world's food and wheat situations and of the United State's wheat surplus disposal programs. This was done to place the analysis that followed in a proper perspective.

It was thought that much of the controversy over surplus disposals was due to the surplus producing countries thinking of it primarily in regard to their problems and only secondarily as a means of aiding the underdeveloped countries. For that reason, the approach here was to consider mainly the needs and abilities of the underdeveloped countries.

A very generalized graphic analysis was made of the relationships that existed between wheat imports and per capita foodgrain production and per capita income in Brazil, India, Japan, and Pakistan for the years 1951-1957. The analysis showed that even the poorest countries may import wheat commercially for reasons other than dire necessity and that there are

several factors that must be considered as influencing an underdeveloped country's commercial imports of wheat. It also led to the conclusion that as a country's per capita income rises, ordinarily its need for concessional terms on foodgrain imports decreases.

Using the preceding conclusion as a basis, a rule was outlined that would require countries seeking wheat on concessional terms to purchase a prescribed percentage -- the percentage to increase as per capita income rises -- of their total requirements of foreign wheat on commercial terms. For example, India would be required to purchase about 15 percent and Japan about 90 percent commercially.

If such a rule were to be adopted by the surplus producing nations, they would also need a rule for determining which of them should fill specific requests for surplus wheat. It was proposed that the country with the largest per capita wheat surplus burden be allowed the first opportunity to fill the request and to reduce its surplus, if it wanted. If not, the request would be offered to the country with the next highest per capita surplus.

It was not thought that the rules suggested would require a great deal of supervision or that the results would be much different from those of the present surplus disposal programs. However, it should assure the exporting countries of commercial markets in the underdeveloped areas and provide them with the opportunity to dispose of surpluses on equal terms, if they want. The underdeveloped countries should gain by being assured of the availability of wheat on concessional terms for some years to come.

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APPENDIX

TABLE VII. PER CAPITA NATIONAL INCOME IN 1957 FOR FORTY-SIX COUNTRIES

Country	Currency Units	Estimated National Income: Domestic Currency (millions of units)	Estimated National Income: U. S. Dollars (millions)	Estimate of Mid-year Population (thousands)	Per Capita Income (U. S. dollars)
Argentina	Peso	188,320	5,096	19,868	256
Australia	Pounds	4,625	10,360	9,643	1,074
Austria	Shilling	98,500	3,788	6,997	541
Belgian Congo	Franc	48,820	976	13,124	74
Belgium	Franc	413,500	8,270	8,989	920
Brazil	Cruzeiro	873,300	9,650	61,268	158
Burma	Kyat	4,450	934	20,054	47
Canada	Dollar	23,834	24,856	16,589	1,498
Ceylon	Rupee	5,067	1,064	9,165	116
Chile	Peso	1,766,400	2,279	7,121	320
Colombia	Peso	12,054	4,822	13,227	365
Cuba	Peso	2,320	2,320	6,410	362
Denmark	Krone	27,020	3,912	4,500	869
Ecuador	Sucre	9,733	649	3,890	167
Egypt 1/	Pound	913	2,622	24,026	109
Finland	Marka	898,600	3,907	4,336	901
France	Franc	15,680,000	37,334	44,091	847
Germany, W.	D.Mark	160,300	38,167	53,692	711
Greece	Drachma	70,647	2,355	8,096	291
Guatemala	Quetzal	559.2	559	3,451	162
Honduras	Lempira	595.2	298	1,769	168
India 1/	Rupee	114,100	23,961	392,440	61
Indonesia 2/	Rupiah	91,600	8,035	80,500	100
Iceland	Krona	3,800	233	165	1,412
Ireland	Pound	465	1,302	2,885	451
Israel	Pound	2,518	1,399	1,937	722
Italy	Lira	12,231,900	19,570	48,483	404
Japan	Yen	8,251,600	22,923	90,900	252
Korea, S.	Hwan	1,606,500		22,303	
Luxembourg	Franc	16,900	338	316	1,070
Mexico	Peso	92,000	7,360	31,426	234
Netherlands	Guilder	26,800	7,580	11,021	688
Norway	Krova	22,805	3,193	3,494	914
Pakistan	Rupee	20,987	4,407	84,450	52
Peru 1/	Sol	22,061	1,161	9,923	117
Portugal	Escudo	50,400	1,753	8,909	197
Spain	Peseta	391,400	9,319	29,431	317
Sweden	Krona	48,301	9,337	7,367	1,267
Switzerland	Franc	27,280	6,348	5,117	1,241
Thailand 3/	Baht	34,950	1,688	21,076	80
Turkey	Lira	27,426	9,794	25,500	384
Un. of So. Africa 1/	Pound	1,701.7	4,765	14,167	336
United Kingdom	Pound	17,604	49,291	51,455	958
United States	Dollar	364,000	364,000	171,360	2,124
Venezuela	Bolivan	16,559	4,943	6,134	806
Yugoslavia	Dinar	1,816,000	6,053	18,005	336

1/ 1956 estimated

2/ 1954 estimated

3/ 1955 estimated

Compiled from Monthly Bulletin of Statistics, Vol. XIII, No. 4, Statistical Office of the United Nations: New York, 1959.

TABLE VIII. INDEX NUMBERS OF PER CAPITA PRODUCT AT CONSTANT PRICES FOR FORTY-FIVE COUNTRIES

Country	1953	1954	1955	1956	1957
Argentina[1]	100	102	104	101	103
Austria	100	110	122	129	136
Belgian Congo[1]	100	100	104	104	104
Belgium	100	103	107	111	112
Brazil[2]	100	108	108	108	—
Burma[1,3]	100	103	109	110	119
Canada	100	94	100	105	101
Ceylon	100	98	104	99	107
Chile	100	94	95	90	88
China: Taiwan[4]	100	98	94	94	—
Columbia[1]	100	106	104	104	—
Cuba	100	105	119	—	—
Denmark	100	101	100	101	106
Ecuador	100	107	106	106	109
Finland[2]	100	108	113	115	115
France	100	104	110	114	121
Germany, W.	100	106	117	123	128
Greece	100	102	110	117	126
Guatemala	100	95	103	113	117
Honduras	100	98	97	96	—
Iceland	100	109	118	122	121
India[4,5]	100	101	102	105	—
Ireland	100	102	104	103	105
Israel	100	120	128	133	—
Italy	100	104	111	115	122
Japan[4,5]	100	101	108	117	127
Korea, South[2]	100	108	111	106	118
Luxembourg	100	104	108	111	—
Mexico[1]	100	105	118	119	—
Morocco[1,6]	100	103	98	97	—
Netherlands	100	106	112	115	117
Norway	100	104	105	108	110
Pakistan[4,5]	100	101	98	103	102
Peru	100	103	110	112	—
Portugal	100	104	105	110	111
Puerto Rico[7]	100	102	104	104	107
Rhodesia and Nyasaland, Fed.	100	110	108	117	123
Spain[4]	100	112	113	—	—
Sweden	100	106	109	111	115
Switzerland[8]	100	105	110	115	117
Thailand[1]	100	94	—	—	—
Turkey	100	88	92	96	98
United Kingdom[1]	100	104	107	108	110
Venezuela	100	104	108	119	135

Note: Unless otherwise stated, the index numbers relate to per capita gross national product at market prices.

[1] Per capita gross domestic product at market prices.

[2] Per capita gross domestic product at factor cost.

[3] Years ending 30 September of year stated.

[4] Per capita net national product at factor cost.

[5] Year beginning 1 April of year stated.

TABLE VIII. FOOTNOTES CONTINUED

[6]Former French Zone only.

[7]Year beginning 1 July of year stated.

[8]Per capita net national product at market prices.

Source: Statistical Yearbook 1958, pp. 429-431, United Nations: New York, 1958.

TABLE IX. PER CAPITA PRODUCT GROWTH AND PER CAPITA NATIONAL INCOME FOR FORTY COUNTRIES

Annual Rate of Per Capita Product Growth (Average 1953-57)	Per Capita Income (1957)	Annual Rate of Per Capita Product Growth (Average 1953-57)	Per Capita Income (1957)
	U.S. $		U.S. $
Less than 1.0%		**4.0 to 4.9%**	
Argentina	256	Burma	47
Canada	1,498	Guatemala	162
Chile	320	Netherlands	688
Honduras	168	Peru	117
Pakistan	52	Switzerland	1,241
Thailand	80		
Turkey	384	**5.0% and over**	
United States	2,124	Austria	541
		Cuba	362
1.0 to 1.9%		France	647
Belgian Congo	74	Germany, W.	711
Ceylon	116	Greece	291
Colombia	365	Iceland	1,412
Denmark	869	Israel	722
India	61	Italy	404
Ireland	451	Japan	252
		Mexico	234
2.0 to 2.9%		Spain	317
Brazil	159	Venezuela	806
Ecuador	167		
Norway	914		
Portugal	197		
United Kingdom	959		
3.0 to 3.9%			
Belgium	920		
Finland	901		
Luxembourg	1,070		
Sweden	1,267		

Sources: Adapted from TABLES VII and VIII on the preceding pages.

TABLE X. WHEAT: SUPPLY AND DISTRIBUTION IN UNITED STATES, CANADA, ARGENTINA, AND AUSTRALIA

Year	Carryover stocks	Production	Domestic supply 1/	Domestic use 1/	Exports including flour	Total disappearance
			1,000 bushels			
Year beginning July 1			**United States**			
1951-52	399,871	968,161	1,388,032	657,185	474,869	1,132,054
1952-53	255,978	1,306,440	1,562,418	639,891	316,983	956,874
1953-54	605,544	1,173,071	1,778,615	628,175	216,934	845,109
1954-55	933,506	983,900	1,917,406	607,342	273,886	881,228
1955-56	1,036,178	934,731	1,970,909	591,696	345,798	937,494
1956-57	1,033,415	1,004,272	2,037,687	597,936	548,945	1,128,881
1957-58	908,806	950,662	1,859,468	577,301	401,696	978,997
1958-59	880,471	1,462,218	2,342,689			
Year beginning August 1			**Canada**			
1951-52	189,203	553,678	742,881	169,878	355,825	525,703
1952-53	217,178	701,973	919,151	150,441	385,525	535,966
1953-54	383,185	634,040	1,017,225	143,469	255,081	398,550
1954-55	618,675	331,981	950,656	161,999	251,909	413,908
1955-56	536,748	519,178	1,055,926	167,170	309,182	476,352
1956-57	579,574	573,040	1,152,614	161,272	261,796	423,068
1957-58	729,546	370,308	1,100,054	169,696	315,594	485,290
1958-59	614,764	368,730	983,494			
Year beginning December 1			**Argentina**			
1951-52	20,000	77,161	97,161	66,375	3,786	92,161
1952-53	5,000	280,500	285,500	130,235	81,965	212,200
1953-54	73,300	227,800	301,100	128,568	112,232	240,800
1954-55	60,300	282,560	342,860	122,176	132,684	254,860
1955-56	88,000	192,900	280,900	128,443	97,457	225,900
1956-57	55,000	261,980	316,980	147,141	99,839	246,980
1957-58	70,000	214,000	284,000	152,385	71,615	224,000
1958-59 *	60,000	225,000				
Year beginning December 1			**Australia**			
1951-52	19,500	159,725	179,225	80,625	81,600	162,225
1952-53	17,000	195,208	212,208	72,879	101,329	174,208
1953-54	38,000	198,000	236,000	76,926	65,574	142,500
1954-55	93,500	168,610	262,110	68,848	98,262	167,110
1955-56	95,000	196,000	291,000	72,503	131,497	204,000
1956-57	87,000	134,500	221,500	74,512	103,988	178,500
1957-58	43,000	97,570	140,570	81,970	48,600	130,570
1958-59 *	10,000	210,000	220,000			

1/ Does not include imported wheat, which for the United States totaled 11.1 million bushels in 1957-58 and averaged 13.2 million for the 6 years 1951-56. Imports into the other countries were generally very small except in 1951-52 when around 8 million bushels were imported into Argentina.

* Preliminary estimates

Source: Grain Market News, Vol. VII, No. 2, Agricultural Marketing Service: Washington, D. C., 1959.

TABLE XI. WHEAT: WORLD PRODUCTION, AVAILABLE SUPPLY, AND APPARENT DISAPPEARANCE, 1951-1958

Year [1]	Production	Carry-in[2] Stocks	Available Supply	Carry-out[2] Stocks	Apparent Utilisation
		-- million bushels --			
1951	6,435	629	7,064	495	6,569
1952	7,505	495	8,000	1,100	6,900
1953	7,390	1,100	8,490	1,706	6,784
1954	6,945	1,706	8,651	1,756	6,895
1955	7,400	1,756	9,156	1,755	7,401
1956	7,795	1,755	9,550	1,751	7,799
1957	7,645	1,751	9,396	1,565	7,831
1958	8,715	1,565	10,280	*	*

[1]Crop years.

[2]Carryovers in United States, Canada, Argentina and Australia.

*Not available.

Sources: Foreign Agricultural Trade, Statistical Handbook, Statistical Bulletin No. 179, Foreign Agricultural Service: Washington, D.C., 1956.

The Wheat Situation, WS - 151 and WS - 163, Agricultural Marketing Service: Washington, D.C., 1956 and 1959.

TABLE XII. INDIA'S FOODGRAIN PRODUCTION, WHEAT SUPPLY, AND POPULATION, 1951-57

	Units	1951	1952	1953	1954	1955	1956	1957
Foodgrain Production	1,000 metric tons							
Rice	"	31,950	34,348	42,322	37,838	41,335	43,104	37,828
Grain Sorghums	"	11,528	13,771	16,885	16,883	14,069	14,034	15,338
Wheat	"	6,462	6,183	7,500	8,017	9,043	8,760	9,463
Total		49,940	54,302	66,707	62,728	64,447	65,898	62,629
Wheat Imports	1,000 metric tons	3,640	1,709	457	680	395	2,447	2,675
	million bushels	134	63	17	25	15	990	98
Population	millions	362.8	367.5	372.3	377.1	382.4	387.4	392.4
Per Capita Foodgrain Production	kilos	137.7	147.8	179.2	166.3	168.5	170.1	195.6
Per Capita Wheat Supply	kilos							
Domestic	"	17.8	16.8	20.1	21.3	23.6	22.6	24.1
Foreign	"	10.0	4.6	1.2	1.8	1.0	6.3	6.8
Total	"	27.8	21.4	21.3	23.1	24.6	28.9	30.9

Sources: Statistical Yearbook 1958, Tenth Issue, Statistical Office of the United Nations: New York, 1958.

Monthly Bulletin of Agricultural Economics and Statistics, Vol. I through VII, Food and Agriculture Organization: Rome, Italy.

TABLE XIII. PAKISTAN'S FOODGRAIN PRODUCTION, WHEAT SUPPLY, AND POPULATION, 1951-57

	Units	1951	1952	1953	1954	1955	1956	1957
Foodgrain Production	1,000 metric tons							
Rice	"	11,820	12,423	13,940	12,819	10,982	13,723	12,935
Wheat	"	4,013	3,020	2,428	3,742	3,215	3,368	3,642
Total	"	15,833	15,443	16,368	16,561	14,197	17,091	16,577
Wheat Imports	1,000 metric tons	—	626	706	8	127	812	896
	million bushels	—	23	26	—	5	30	33
Population	millions	77.0	78.9	80.0	81.2	82.2	83.3	84.4
Per Capita Foodgrain Production	kilos	206	196	205	204	173	205	196
Per Capita Wheat Supply	kilos							
Domestic	"	52.1	38.3	30.4	46.1	39.1	40.4	43.2
Foreign	"	—	7.9	8.8	.1	1.5	9.7	10.6
Total	"	52.1	46.2	39.2	46.2	40.6	50.1	53.8

Sources: Statistical Yearbook 1958, Tenth Issue, Statistical Office of the United Nations: New York, 1958.

Monthly Bulletin of Agricultural Economics and Statistics, Vol. I through VII, Food and Agriculture Organization: Rome, Italy.

TABLE XIV. JAPAN'S FOODGRAIN PRODUCTION, WHEAT SUPPLY, AND POPULATION, 1951-57

	Units	1951	1952	1953	1954	1955	1956	1957
Foodgrain Production	1,000 metric tons							
Rice	"	11,302	12,404	10,298	11,392	15,481	13,080	14,328
Wheat	"	1,490	1,537	1,374	1,516	1,468	1,375	1,330
Total	"	12,792	13,941	11,672	12,908	16,949	14,455	15,658
Wheat Imports	1,000 metric tons	1,729	1,105	2,531	1,919	2,305	2,350	2,661
	million bushels	64	41	93	71	85	86	98
Population	millions	84.2	85.5	86.7	88.0	89.0	90.0	90.9
Per Capita Foodgrain Production	kilos	152	163	135	147	190	161	172
Per Capita Wheat Supply	kilos	17.7						
Domestic	"	17.7	18.0	15.8	17.2	16.5	15.3	14.6
Foreign	"	20.5	12.9	29.2	21.8	25.9	26.1	29.3
Total	"	38.2	30.9	45.0	39.0	42.4	41.4	43.9

Sources: Statistical Yearbook 1958, Tenth Issue, Statistical Office of the United Nations: New York, 1958.

Monthly Bulletin of Agricultural Economics and Statistics, Vol. I through VII, Food and Agriculture Organization: Rome, Italy.

TABLE XV. BRAZIL'S FOODGRAIN PRODUCTION, WHEAT SUPPLY, AND POPULATION, 1951-57

	Units	1951	1952	1953	1954	1955	1956	1957
Foodgrain Production	1,000 metric tons							
Corn	"	5,907	5,984	6,789	6,690	6,999	7,707	7,386
Rice	"	2,931	3,072	3,366	3,737	3,489	4,076	3,988
Wheat	"	424	690	772	871	1,101	1,296	1,199
Total	"	9,262	9,746	10,927	11,298	11,589	13,079	12,573
Wheat Imports	1,000 metric tons	1,363	1,203	1,371	1,160	1,416	1,419	1,033
	million bushels	50	44	50	43	52	52	38
Population	millions	53.2	54.5	55.8	57.1	58.5	59.8	61.3
Per Capita Foodgrain Production	kilos	174.1	178.8	195.8	197.9	198.1	218.7	205.1
Per Capita Wheat Supply	kilos							
Domestic	"	8.0	12.7	13.8	15.3	18.8	21.7	19.6
Foreign	"	25.6	22.1	24.6	20.3	24.2	23.7	16.9
Total	"	33.6	34.8	38.4	35.6	43.0	45.4	36.5

Sources: Statistical Yearbook 1958, Tenth Issue, Statistical Office of the United Nations: New York, 1958.

Monthly Bulletin of Agricultural Economics and Statistics, Vol. I through VII, Food and Agriculture Organization: Rome, Italy.

TABLE XVI. WORLD WHEAT 1/ EXPORTS TO UNDERDEVELOPED AREAS 2/ AND TOTAL EXPORTS 3/ 1951-52 to 1957-58

Year, 4/ Origin and Destination	United States	Canada	Australia	Argentina	Others	Total
			million bushels			
1951-52						
W. Hemisphere	78	29	—	20	5	132
Africa	26	7	12	1	20	66
Asia	130	28	31	5	16	210
Total	234	64	43	26	41	408
	(480)	(342)	(99)	(30)	(115)	(1,066)
1952-53						
W. Hemisphere	74	35	•	12	7	128
Africa	18	16	5	—	15	54
Asia	53	49	43	9	33	187
Total	145	100	48	21	55	369
	(324)	(385)	(100)	(29)	(149)	(987)
1953-54						
W. Hemisphere	27	31	•	57	18	133
Africa	12	4	6	1	14	37
Asia	46	21	36	1	24	128
Total	85	56	42	59	56	298
	(220)	(285)	(71)	(110)	(193)	(879)
1954-55						
W. Hemisphere	37	20	•	51	20	128
Africa	7	3	5	•	13	28
Asia	48	15	42	•	16	121
Total	92	38	47	51	49	277
	(275)	(252)	(93)	(132)	(218)	(970)
1955-56						
W. Hemisphere	57	17	•	46	14	134
Africa	31	3	5	1	13	53
Asia	6 60	10	39	•	14	123
Total	148	30	44	47	41	310
	(343)	(289)	(102)	(115)	(190)	(1,039)

TABLE XVI. CONTINUED

Year, 4/ Origin and Destination	United States	Canada	Australia	Argentina	Others	Total
			million bushels			
1956-57						
W. Hemisphere	62	15	1	48	15	141
Africa	15	2	6	•	34	57
Asia	174	12	61	—	16	263
Total	251	29	68	48	65	461
	(549)	(282)	(126)	(98)	(273)	(1,328)
1957-58						
W. Hemisphere	52	16	•	40	5	113
Africa	10	2	5	1	50	68
Asia	170	38	24	—	29	261
Total	232	56	29	41	84	442
	(402)	(316)	(61)	(78)	(333)	(1,190)

• Less than 500,000 bushels.

1/ Including wheat flour, in grain equivalent

2/ Areas designated, excluding the United States, Canada, Union of South Africa, and Japan.

3/ In parenthesis

4/ Marketing year, July 1 to June 30.

TABLE XVII. U.S. WHEAT AND FLOUR EXPORTS TO BRAZIL, INDIA, JAPAN, AND PAKISTAN UNDER GOVERNMENT PROGRAMS, 1954-55 to 1957-58

Year[1] and country of destination	Title I	Title II	Barter	Section 402	Section 416	Total
			— 1,000 bushels —			
1954-55						
Brazil	—	—	—	—	—	—
India	—	—	220	5,162	—	5,382
Japan	—	—	10,821	20,907	—	31,728
Pakistan	—	—	—	—	—	—
1955-56						
Brazil	15,899	—	—	—	—	15,899
India	—	371	—	8,558	33	8,962
Japan	13,680	—	14,249	—	18	27,947
Pakistan	—	4,641	—	—	—	4,641
1956-57						
Brazil	13,551	—	353	—	22	13,926
India	62,960	724	—	2,921	40	66,645
Japan	13,180	3,744	11,655	—	158	28,737
Pakistan	17,108	15	—	606	—	17,729
1957-58						
Brazil	5,721	—	—	—	—	5,721
India	68,964	—	—	7,055	555	76,574
Japan	4,119	3,421	—	—	276	7,816
Pakistan	20,940	1,867	—	—	48	22,855

[1] Marketing year, July – June.

Source: The World Grain Trade, pp. 26-31, Foreign Agricultural Service: Washington, 1959.